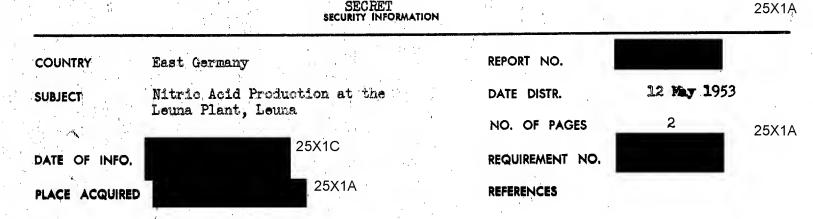
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CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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- 1. Nitric acid was produced at Leuna by the exidation of ammenia with air in a double consentated reactor under 5 atm pressure. The mixed ammenia and air was passed through a platinum acreen placed at the widest point of the reactor and between the two conical halves of the reactor. The screen had platinum wires about 0.1 mm. in diameter and spaces about 0.1 mm. between these. This screen was electrically heated to a glowing temperature of about 600 700° C and the mixed gases were passed upward through it. This catalyzed the exidation process and, as the heat of burning was sufficient to continue the reaction, the platinum gauze could be allowed to cool, once the reaction had started. The platinum catalyst is not very expensive as it is of light weight and is very durable.
- 2. The Soviets wished to change the process to operate atmospheric pressures so that they could use iron catalyst. This would mean that the reactor would have to be about five time larger to give the same production as in the process operating at 5 atm. Based on the economy of the platinum catalyst and on the smaller reactors required.

 process to the atmospheric process.

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3. In this method of producing nitrogen by burning ammonia, some lower exides of nitrogen NO2 and N2O4 are produced along with the desired nitric acid

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for use as rocket fuel. The ferric nitrate formed when the acid is in contact with steels helps stabilize it. However, this must be kept at a minimum, if the acid is to be used with rocket fuels as the ignition time is lowered by the ferric nitrate.

- 4. Normal or dilute concentrated nitric acid was required at Leuna for the production of calcium nitrate and ammonium nitrate fertilizers. Commonium opinion, ammonium nitrate production due to the danger of explosion.
- 5. The urea production, which was small, was also dangerous due to explosions during the evaporation of the water to give the dry urea. There was one explosion at Leuna of urea, about 2 cu m, at about the point where no water remained.

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